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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,787	11/13/2003	Xiaoxun Zhu	108-192USA000	7813

7590 07/14/2005  
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EXAMINER

KIM, AHSHIK

ART UNIT PAPER NUMBER

2876

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/712,787	Applicant(s) ZHU ET AL.	
	Examiner Ahshik Kim	Art Unit 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 6/24/04 (preliminary amendment).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 57-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Preliminary Amendment*

1. Receipt is acknowledged of the amendment filed on June 24, 2004. In the amendment  
5 claims 1-56 were amended; and claims 57-68 were newly added. Currently, claims 57-68 remain  
for examination.

### *Drawings*

2. Drawing change submitted on December 27, 2004 is approved. However, the formal  
10 drawing for figures 7C1 and 7C2 are required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

15 The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the  
subject matter which the applicant regards as his invention.

4. Claim 58 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for  
failing to particularly point out and distinctly claim the subject matter which applicant regards as  
the invention.

20 Re claim 58, lines 21-22: it is unclear what Applicant meant by “for controlling and  
coordinating the greater of a plurality of said subsystems.”

Applicant is respectfully suggested to amend the claims to clarify the subject matter  
recited in this claim, particularly the cited portion of the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10 6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later  
15 invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 57, 60-62, and 64-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roustaei (US 6,123,261, hereinafter "Roustaei") in view of Metlitsky et al. (US 5,545,886, hereinafter "Metlitsky").

20 Re claims 57, 62, and 64-66, Roustaei discloses a hand-supportable optical reader (col. 1, lines 23+; col. 7, lines 53+) reading one or two dimensional code at varying depths of field (see abstract). The reader is comprised of LED-base illumination subsystem (col. 5, lines 66+); image capturing means embodied with CCD (col. 1, lines 51+) and input/output system interfacing with a host machine 811 (col. 7, line 53 – col. 8, line 6). The CCD provides three  
25 scanning modes: full-readout mode, block-access mode, and skip-access mode. The block access mode provides a readout of any arbitrary area of interest (col. 6, lines 15-49).

Roustaei fails to specifically teach or fairly suggest that the LED is a multi-mode based subsystem for producing narrow and wide area fields of LED illumination.

Metlitsky teaches an optical code scanner (see abstract) wherein a linear array of light source is selectively activated to generate desired scanning beam pattern (see abstract; col. 1,  
5 lines 66+; col. 2, lines 22+).

In view of Metlitsky's teachings, it would have been obvious to an ordinary skill in the art at the time the invention was made to employ well-known selectively activatable LEDs to the teachings of Roustaei in order to reduce power consumption of LEDs and prolong the life of LEDs and the scanning apparatus. As is known, LEDs often generate intense heat. The more  
10 LEDs are used, the shorter the life of the illuminating subsystem; and LEDs have to be frequently replaced. By incorporating selectively activated LEDs, the lifespan of LEDs can be extended. The overall wear and tear caused by selectable LED, compared to all-or-none LED would be significantly less. Therefore, such modification (incorporating selectively activated LEDs) would have been an obvious expedient, well within the ordinary.

15 Re claim 60, the image formation means can be a CMOS-type image sensing array (col. 1, lines 52+).

Re claim 61, the optical reader further includes SDRAM memory (col. 8, lines 19-30) and FPGA or ASIC circuitry (col. 9, lines 23+).

Re claims 67 and 68, the captured images are transmitted to and from the memory buffer  
20 (col. 4, lines 23-27; col. 6, lines 49+).

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8. Claim 58, 59 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roustaei et al. (US 6,123,261) as modified by Metlitsky et al. (US 5,545,886) as applied to claim 57 above, and further in view of Rockstein et al. (US 5,340,971, hereinafter "Rockstein").

The teachings of Roustaei as modified by Metlitsky have been discussed above.

5 Roustaei/Metlitsky fails to specifically teach or fairly suggest of utilizing IR-based object detection subsystem.

Rockstein teaches an automatic barcode reader having selectable long range and short range mode (see abstract). In determining the mode, IR-base object detection system is used (col. 7, lines 20+).

10 In view of Rockstein's teaching, it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate well-known IR-based object presence and range detection subsystem to the teachings of Roustaei/Metlitsky in order to clearly capture the target image. Roustaei, being a variable depths scanner, has the means to focus on variable depths. However, IR-based object detection system would improve the existing range finding  
15 means of Roustaei.

Re claim 59, Roustaei discloses that many components (i.e., LED, CCD, and other circuitries) are installed on the printed circuit board (col. 3, lines 23+).

### ***Conclusion***

20 I. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Inoue et al. (US 5,418,357); Longacre, Jr. (US 5,773,806); Campanelli et al. (US 6,024,283); Salatto et al. (US 5,945,658) disclose optical readers. Applicant is respectfully suggested to carefully review these references.

II. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Ahshik Kim* whose telephone number is (571)272-2393. The

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examiner can normally be reached between the hours of 6:00AM to 3:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571)272-2398. The fax number directly to the Examiner is (571)273-2393. The fax phone number for this Group is (703)872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [ahshik.kim@uspto.gov].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Ahshik Kim  
Patent Examiner  
Art Unit 2876  
July 1, 2005